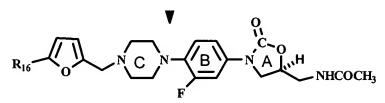
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- 1. Cancelled.
- 2. Cancelled.
- 3. Cancelled.
- 4. Cancelled.
- 5. Cancelled.
- 6. Cancelled.
- 7. Cancelled.
- 8. Cancelled.
- 9. Cancelled.
- 10. Cancelled.
- 11. Cancelled.
- 11. Cancelled.
- 12. Cancelled.
- 13. Cancelled.
- 14. Cancelled.
- 15. Cancelled.
- 16. A process for preparing a compound of Formula XI



**FORMULA XI** 

 $(R_{16} = -CH_2F \text{ or } -CH_2F_2)$  by reacting a compound of Formula IX

FORMULA IX

with sodium borohydride to produce a compound of Formula X

#### FORMULA X

and further reacting this compound with diethylamino sulfurtrifluoride to produce compound of Formula XI.

# 17. A process for preparing a compound of Formula XII

#### FORMULA XII

wherein  $R_{17} = \sum_{N=0H}$  which comprises reacting (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-formyl)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide of Formula IX

FORMULA IX

with hydroxylamine.

### 18. A process for preparing a compound of Formula XII

### FORMULA XII

wherein  $R_{17} = \sum_{N=NH_2} \text{which comprises reacting (S)-N-[[3-[3-Fluoro-4[N-1-[4-{2-furyl-(5-hydrazone)-methyl}]-piperazinyl]-phenyl]-2-oxo-5-oxazolidinyl]-methyl]acetamide with hydrazine hydrate.$ 

## 19. A process for preparing a compound of Formula XII

### FORMULA XII

wherein  $R_{17} = -C_{NH} - C_{NH} - C$ 

### 20. A process for preparing a compound of Formula XII

#### FORMULA XII

wherein  $R_{17}$  = CN which comprises reacting (S)-N-[[3-[3-Fluoro-4-[N-1]4-{2-furyl(5-cyano)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide with trifilic anhydride and triethylamine.

### 21. A process for preparing a compound of Formula XII

#### FORMULA XII

wherein R17 =  $-c\dot{h}_0$  which comprises reacting (S)-N-[[3-Fluoro-4-[N-1[5-(1,3-dioxane)-2-furylmethyl]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide with 1,3-propane diol and BF<sub>3</sub> etherate.

### 22. A process for the preparation of the compound of Formula XIV

#### FORMULA XIV

wherein  $R_{18} = \frac{1}{C} \frac{1}{NH_2}$  which comprises reacting (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-formyl)methyl}]] piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide of Formula IX

$$H \underbrace{\bigcap_{O} O \bigvee_{N \subset N} \bigcup_{B} \bigvee_{C \subset O} \bigvee_{H} \bigvee_{N \to C} \bigvee_{N \to C}$$

FORMULA IX

with Ag<sub>2</sub>O to produce (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-carboxy)methyl}]-piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide of Formula XIII followed by reacting (S)-N-[[3-Fluoro-4-[N-1[4-(2-furyl- (5-carboxyethyl)methyl)piperazinyl] phenyl]- 2-oxo-5-oxazolidinyl]methyl] acetamide of Formula XIII

#### FORMULA XIII

with aqueous ammonia to produce Formula XIV.

## 23. A process for the preparation of the compound of Formula XIV

### FORMULA XIV

wherein 
$$R_{18} = C_{N}$$

which comprises reacting (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-formyl)methyl}] piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide of Formula IX

with Ag<sub>2</sub>O to produce (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-carboxy)methyl}]-piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide of Formula XIII followed by reacting (S)-N-[[3-Fluoro-4-[N-1[4-(2-furyl- (5-carboxyethyl)methyl)piperazinyl] phenyl]- 2-oxo-5-oxazolidinyl]methyl] acetamide of Formula XIII

### FORMULA XIII

with thionyl chloride to produce Formula XIV.

24. A process for the preparation of the compound of Formula XIV

#### FORMULA XIV

wherein 
$$R_{18} = 0$$
 $C$ 
 $N$ 
NHBOO

which comprises reacting (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-formyl)methyl}] piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide of Formula IX

FORMULA IX

with Ag<sub>2</sub>O to produce (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-carboxy)methyl}]-piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide of Formula XIII followed by reacting (S)-N-[[3-Fluoro-4-[N-1[4-(2-furyl- (5-carboxyethyl)methyl)piperazinyl] phenyl]- 2-oxo-5-oxazolidinyl]methyl] acetamide of Formula XIII

FORMULA XIII

with morpholine in the presence of oxalyl chloride to produce Formula XIV.

## 25. (New) A compound having the structure of Formula I

$$R - T - W - X \xrightarrow{C} N - X \xrightarrow{C \cap C} N \xrightarrow{C \cap$$

**FORMULA I** 

and its pharmaceutically acceptable salts, enantiomers, diastereomers, or N-oxides, wherein

T is five- to seven-membered heterocyclic ring, aryl, substituted aryl, bound to the ring C with a linker W and the heterocyclic and aryl rings are further substituted by a group represented by R,

wherein R is selected from the group consisting of alkyl ( $C_{1-6}$ ), halogen–CN,  $COR_5$ ,  $COOR_5$ ,  $N(R_6,R_7)$ , CON ( $R_6$ ,  $R_7$ ),  $CH_2NO_2$ ,  $NO_2$ ,  $CH_2R_8$ ,  $CHR_9$ ,  $-CH = N-OR_{10}$ ,  $-C=CH-R_5$ , wherein  $R_5$  is selected from the group consisting of H, optionally substituted  $C_1-C_{12}$ , alkyl,  $C_{3-12}$ , cycloalkyl, aryl, heteroaryl;  $R_6$  and  $R_7$  are independently selected from the group consisting of H, optionally substituted  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$  alkoxy;  $R_8$  and  $R_9$  are independently selected from the group consisting of H,  $C_{1-6}$  alkyl, F, Cl, Br,  $C_{1-12}$  alkyl substituted with one or more of F, Cl, Br, I,  $OR_4$ ,  $SR_4$ ,  $N(R_6,R_7)$  wherein  $R_4$  is selected from the group consisting of H,  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$ 

alkoxy,  $C_{1-6}$  alkyl substituted with one or more F, Cl, Br, I or OH and  $R_6$  and  $R_7$  are the same as defined earlier,  $R_{10}$  is selected from the group consisting of H, optionally substituted from H, optionally substituted  $C_{1-12}$  alkyl,  $C_{3-512}$  cycloalkyl,  $C_{1-6}$ , alkoxy,  $C_{1-6}$  alkyl, aryl, heteroaryl;

n is 1;

X is N

Y and Z are independently selected from the group consisting of hydrogen,  $C_{1-6}$  alkyl, and  $C_{3-12}$  cycloalkyl;

**U** and **V** are independently selected from the group consisting of hydrogen, optionally substituted  $C_{1-6}$  alkyl, F, Cl, Br, and  $C_{1-12}$  alkyl substituted with one or more of F, Cl, Br, I;

W is selected from the group  $CH_2$ , CO,  $CH_2NH$ ,  $-NHCH_2$ ,  $-CH_2NHCH_2$ ,  $-CH_2-N$  ( $R_{11}$ )  $CH_2$  -, -CO-CO-,  $CH_2$  ( $R_{11}$ ) N -, CH ( $R_{11}$ ), S,  $CH_2$  (CO), N ( $R_{11}$ ) wherein  $R_{11}$  is hydrogen, optionally substituted  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  alkyl, aryl or heteroaryl;

 $R_1$  is selected from the group consisting of - NHC(=O) $R_2$  wherein  $R_2$  is hydrogen,  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  alkyl substituted with one or more of F, Cl, Br, I or OH; N( $R_3$ ,  $R_4$ ); -NR<sub>2</sub>C(=S)  $R_3$ ; -NR<sub>2</sub>C(=S)SR<sub>3</sub> wherein  $R_2$  is the same as defined above and  $R_3$  and  $R_4$  are independently selected from the group consisting of H,  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  alkyl substituted with one or more of F, Cl, Br, I or OH.

## 26. (New) A compound having structure of Formula II

#### **FORMULA II**

and its pharmaceutically acceptable salts, enantiomers, diastereomers, or N-oxides, wherein M= O, S, NH, N-CH<sub>3</sub>;

X is N;

Y and Z are independently selected from the group consisting of hydrogen,  $C_{1-6}$  alkyl, and  $C_{3-12}$  cycloalkyl;

U and V are independently selected from the group consisting of hydrogen, optionally substituted  $C_{1-6}$  alkyl, F, Cl, Br, and  $C_{1-12}$  alkyl substituted with one or more of F, Cl, Br, I;

W is selected from the group consisting of CH<sub>2</sub>, CO, CH<sub>2</sub>NH, -NHCH<sub>2</sub>, -CH<sub>2</sub>NHCH<sub>2</sub>, -CH<sub>2</sub>-N (R<sub>11</sub>) CH<sub>2</sub> - , CH<sub>2</sub> (R11) N -, CH (R<sub>11</sub>), S, CH<sub>2</sub> (CO), NH wherein R<sub>11</sub> is optionally substituted with C  $_{1-12}$  alkyl, C $_{3-12}$  cycloalkyl, C $_{1-6}$  alkoxy, C  $_{1-6}$  alkyl, aryl, heteroaryl except when M=S, Q=P=H, W=(C=O);

**n** is 1; and,

**Q and P** are independently selected from the group consisting of -CN,  $COR_5$ ,  $COOR_5$ , N  $(R_6, R_7)$ ,  $CON(R_6, R_7)$ ,  $CH_2NO_2$ ,  $NO_2$ ,  $CH_2R_8$ ,  $CHR_9$ , -CH=N-OR<sub>10</sub>, C=CH-R<sub>5</sub>, wherein  $R_5$  is selected from the group consisting of H, optionally substituted  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl, aryl, heteroaryl;  $R_6$  and  $R_7$  are independently selected from the group consisting of H, optionally substituted  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$  alkoxy;  $R_8$  and  $R_9$ 

are independently selected from the group consisting of H,  $C_{1-6}$  alkyl ,F, Cl, Br,  $C_{1-12}$  alkyl substituted with one or more of F, Cl, Br, I, OR<sub>4</sub>, SR<sub>4</sub>, wherein R<sub>4</sub> is selected from the group consisting of H,  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  alkyl substituted with one or more F, Cl, Br, I or OH, N(R<sub>6</sub>, R<sub>7</sub>), R<sub>10</sub> is selected from the group consisting of H, optionally substituted  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  alkyl, aryl, heteroaryl except W= (CO), Q and P =H and M=S, wherein M = Sulphur and Oxygen as shown by Formulae III and IV respectively,

#### **FORMULA III**

Formula IV

wherein P, Q, U, V, X, Y, Z, W and n in Formulae III and IV as defined earlier for Formula I.

- 27. (New) A compound selected from the group consisting of
  - 1. (S)-N-[[3-[3-Fluoro-4-[N-1-[4-(2-furoyl) piperazinyl]]phenyl]-2-oxo-5-oxazolidinyl] methyl]acetamide
  - 2. (S)-N-[[3-[3-Fluoro-4-[N-1[4-{2-furyl(5-formyl)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide

- 3. (S)-N-[[3-Fluoro-4-[N-1[4-(2-furyl-(5-carboxyethyl)methyl)piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 4. (S)-N-[[3-Fluoro-4-[N-1[4-(5-bromo-2-furoyl)]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl] methyl]acetamide
- 5. (S)-N-[[3-Fluoro-4-[N-1[4-(5-chloromethyl-2-furoyl)piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 6. (S)-N-[[3-Fluoro-4-[N-1[4-(5-nitro-2-furoyl)piperazinyl]phenyl]-2-oxo-5-oxazolidinyl] methyl]acetamide
- 7. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-(2-thienyl)dicarbonyl}]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
- 8. (S)-N[[3-[3-Fluoro-4-[N-1[4-(3-furoyl)]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl] acetamide
- 9. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-furyl(5-bromo)methyl}]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
- 10. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-thienyl(5-chloro)methyl}]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
- 11. (S)-N[[3-[3-Fluoro-4-[N-1[4-(2-furylmethyl)]piperazinyl]phenyl]2-oxo-5-oxazolidinyl] methyl]acetamide
- 12. (S)-N-[[3-[3-Fluoro-4-[N-1[4-(2-thienylmethyl)]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 13. (S)-N[[3-[3-Fluoro-4-[N-1[4-(2-thienylacetyl)]piperazinyl]phenyl]2-oxo-5-oxazolidinyl] methyl]acetamide
- 14. (S)-N-[[3-[3-Fluoro-4-[N-1[4-{2-thienyl(4-bromo)methyl}]piperazinyl] phenyl]-2 oxo-5-oxazolidinyl]methyl]acetamide
- 15. (S)-N-[[3-[3-fluoro-4-[N-1-[4-{2-furyl-(5-nitro)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide.
- 16. Hydrochloric salt of (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-nitro)methyl}]piperazinyl] phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 17. Citrate salt of (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-nitro)methyl}]piperazinyl] phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 18. (S)-N[[3-[3-Fluoro-4-[N-1[4-(2-pyrrolylmethyl)]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide

- 19. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-thienyl(3-methyl)methyl}]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
- 20. (S)-N[[3-[3-Fluoro-4-[N-1[4-(3-furylmethyl)]piperazinyl]phenyl]2-oxo-5-oxazolidinyl] methyl]acetamide
- 21. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-thienyl(5-methyl)methyl}]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
- 22. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-pyrrole(1-methyl)methyl}]piperazinyl] phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
- 23. (S)-N[[3-[3-Fluoro-4-[N-1[4-{2-thienyl(5-nitro)methyl}]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
- 24. (S)-N[[3-[3-Fluoro-4-[N-1[4-[2-furyl{5-(N-thiomorpholinyl)methyl]methyl]piperazinyl] phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
- 25. (S)-N[[3-[3-Fluoro-4-[N-1[4-[2-furyl{5-(N-morpholinyl)methyl}]piperazinyl] phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
- 26. (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-acetoxymethyl)methyl}]piperazinyl] phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 27. (S)-N-[[3-Fluoro-4-[N-1[4-{2-thienyl(5-bromo)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 28. (S)-N-[[3-Fluoro-4-[N-1[4-(5-nitro-2-furylmethyl)piperazinyl] phenyl]- 2-oxo oxazolidinyl]methyl]dichloroacetamide
- 29. (S)-N[[3-[3-Fluoro-4-[N-1[4-(5-nitro-2-thienoyl)]piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide hydrochloride
- 30. (S)-N[[3-[3-Fluoro-4-[N-1[4-(2',2'-diphenyl-2' hydroxy acetyl )] piperazinyl]phenyl]2-oxo-5-oxazolidinyl]methyl]acetamide
- 59. (S)-N-[[3-[3-fluoro-4-[N-1 {2-furyl-[4-(5-difluoromethyl) methyl] piperazinyl]-2-oxo-5-oxazolidinyl]-methyl]acetamide.
- 60. (S)-N-[[3-[3-Fluoro-4-[N-1-[4-(2-furyl-(5-aldoxime)methyl]] piperazinyl] phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 61. (S)-N-[[3-[3-Fluoro-4-[N-1[4-{2-furyl(5-aldoxime(methyl-4-(N-carboxyaminophenyl acetate) methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide

- 62. (S)-N-[[3-[3-Fluoro-4[N-1-[4-{2-furyl-(5-hydrazone)-methyl}]-piperazinyl]-phenyl]-2-oxo-5-oxazolidinyl]-methyl]acetamide
- 63. (S)-N-[[3-[3-fluoro-4-[N-1 {2-furyl-[4-(5-difluoromethyl) methyl}]piperazinyl]-2-oxo-5-oxazolidinyl]-methyl]acetamide
- 64. (S)-N-[[3-[3-Fluoro-4-[N-1-[4-(2-furyl-(5-aldoxime)methyl]] piperazinyl] phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 65. (S)-N-[[3-[3-Fluoro-4-[N-1[4-{2-furyl(5-aldoxime(methyl-4-(N-carboxyaminophenyl acetate) methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 66. (S)-N-[[3-[3-Fluoro-4[N-1-[4-{2-furyl-(5-hydrazone)-methyl}]-piperazinyl]-phenyl]-2-oxo-5-oxazolidinyl]-methyl]acetamide
- 67. (S)-N-[[3-[3-Fluoro-4-[N-1 {2-furyl-[4-(5-hydroxymethyl)methyl}] piperazinyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 68. (S)-N-[[3-[3-Fluoro-4-[N-1[4-{2-furyl(5-cyano)methyl}] piperazinyl]phenyl] -2-oxo-5-oxazolidinyl]methyl]acetamide
- 69. (S)-N-[[3-Fluoro-4-[N-1[4-{2-furyl(5-carboxy)methyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide
- 70. (S)-N-[[3-Fluoro-4-[N-1[5-(1,3-dioxane)-2-furylmethyl]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide
- 71. (S)-N-[[3-Fluoro-4-[N-1[5-(formamido)-2-furylmethyl]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide
- 72. (S)-N-[[3-Fluoro-4-[N-1[5-(morpholine-1-carbonyl)-2-furylmethyl]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide
- 73. (S)-N-[[3-Fluoro-4-[N-1[5-(4-(tert butoxy carbonyl)amino piperidine)-2-furylmethyl]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl] acetamide
- 74. (S)-N-[[3-Fluoro-4-[N-1[4-{(Z)-2-methoxyimino-2-(2-furyl)acetyl}]piperazinyl]phenyl]-2-oxo-5-oxazolidinyl]methyl]acetamide
- 28. (New) A pharmaceutical composition comprising the compound of claims 25, 26, or 27 and a pharmaceutically acceptable carrier.
- 29. (New) A pharmaceutical composition comprising a pharmaceutically effective amount of compound according to claims 25, 26 or 27, or a physiologically acceptable acid addition salt thereof with a pharmaceutically acceptable carrier for treating microbial infections.

- 30. (New) A method of treating or preventing microbial infections in a mammal comprising administering to the said mammal, the pharmaceutical composition according to claim 29.
- 31. (New) A process for preparing a compound of Formula I

**FORMULA I** 

and its pharmaceutically acceptable salts, enantiomers, diastereomers, or N-oxides, wherein

T is five to seven membered heterocyclic ring, aryl, substituted aryl, bound to the ring C with a linker w and the heterocyclic and aryl rings are further substituted by a group represented by R,

wherein R is selected from the group consisting of -CN,  $COR_5$ ,  $COOR_5$ ,  $N(R_6,R_7)$ ,  $CON(R_6,R_7)$ ,  $CH_2NO_2$ ,  $NO_2$ ,  $CH_2R_8$ ,  $CHR_9$ ,  $-CH = N-OR_{10}$ ,  $-C=CH-R_5$ , wherein  $R_5$  is selected from the group consisting of H, optionally substituted  $C_1-C_{12}$ , alkyl,  $C_{3^{-1}2}$ , cycloalkyl, aryl, heteroaryl,  $R_6$  and  $R_7$ , are independently selected from the group consisting of H, optionally substituted  $C_{1^{-1}2}$  alkyl,  $C_{3^{-1}2}$  cycloalkyl,  $C_{1^{-6}}$  alkoxy;  $R_8$  and  $R_9$  are independently selected from the group consisting of H,  $C_{1^{-6}}$  alkyl, F, Cl, Br,  $C_{1^{-1}2}$  alkyl substituted with one or more of F, Cl, Br, I,  $OR_4$ ,  $SR_4$ ,  $N(R_6,R_7)$  wherein  $R_4$  is selected from the group consisting of H,  $C_{1^{-1}2}$  alkyl,  $C_{3^{-1}2}$  cycloalkyl,  $C_{1^{-6}}$  alkoxy,  $C_{1^{-6}}$  alkoxy,  $C_{1^{-6}}$  alkyl substituted with one or more F, Cl, Br, I or OH and  $R_6$  and  $R_7$  are the same as defined earlier,  $R_{10}$  is selected from the group consisting of H, optionally substituted from H, optionally substituted  $C_{1^{-1}2}$  alkyl,  $C_{3^{-5}12}$  cycloalkyl,  $C_{1^{-6}}$ , alkoxy,  $C_{1^{-6}}$  alkyl, aryl, heteroaryl;

n is 1;

X is N;

Y and Z are independently selected from the group consisting of hydrogen,  $C_{1-6}$  alkyl, and  $C_{3-12}$  cycloalkyl;

U and V are independently selected from the group consisting of hydrogen, optionally substituted  $C_{1-6}$  alkyl, F, Cl, Br, and  $C_{1-12}$  alkyl substituted with one or more of F, Cl, Br, I;

W is selected from the group consisting of  $CH_2$ , CO,  $CH_2NH$ ,  $-NHCH_2$ ,  $-CH_2NHCH_2$ ,  $-CH_2-N$  ( $R_{11}$ )  $CH_2-$ ,  $CH_2$  ( $R_{11}$ ) N-, CH ( $R_{11}$ ), S,  $CH_2$  (CO), NH wherein  $R_{11}$  is optionally substituted with  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  alkyl, aryl, heteroaryl; and

 $R_1$  is selected from the group consisting of - NHC(=O) $R_2$  wherein  $R_2$  is hydrogen,  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  alkyl substituted with one or more of F, Cl, Br, I or OH; N( $R_3$ ,  $R_4$ ); -NR<sub>2</sub>C(=S)  $R_3$ : -NR<sub>2</sub>C(=S)SR3 wherein  $R_2$  is the same as defined above and  $R_3$  and  $R_4$  are independently selected from the group consisting of H,  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  alkyl substituted with one or more of F, Cl, Br, I or OH,

which comprises reacting an amine compound of Formula V

FORMULA V

with a heterocyclic compound of Formula R-T-W- R<sub>12</sub> wherein G in amines of

Formula V is defined as NH and Y, Z, U, V, R<sub>1</sub>, n, R, T and W are the same as defined earlier and R<sub>12</sub> is a leaving group selected from the group consisting of fluoro, chloro, bromo, SCH<sub>3</sub>, -SO<sub>2</sub>CH<sub>3</sub>, -SO<sub>2</sub>CF<sub>3</sub> or OC<sub>6</sub>H<sub>5</sub>.

- 32. (New) A process for preparing a compound of Formula I as claimed in claim 31, wherein W=CH<sub>2</sub> and R-T-W-R<sub>12</sub> is a five membered heterocyclic ring with aldehyde group and the compound of Formula I is produced by reductive amination.
- 33. (New) A process for preparing a compound of Formula I as claimed in claim 31, wherein W = CO and R-T-W- $R_{12}$  is a five membered heterocyclic ring with carboxylic acid, and amino compound of Formula V is acylated with activated esters in presence of condensing agents comprising 1,3-dicyclohexylcarbodiimide (DCC) and 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide (EDC).
- 34. (New) A process for the preparation of compound of Formula II

**FORMULA II** 

wherein

n is 1;

X is N;

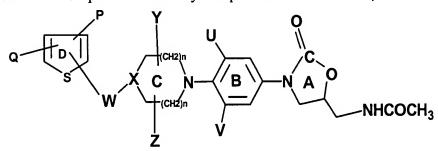
Y and Z are independently selected from the group consisting of hydrogen,  $C_{1-6}$  alkyl, and  $C_{3-12}$  cycloalkyl;

**U and V** are independently selected from the group consisting of hydrogen, optionally substituted  $C_{1-6}$  alkyl, F, Cl, Br, and  $C_{1-12}$  alkyl substituted with one or more of F, Cl, Br, I;

W is selected from the group consisting of  $CH_2$ , CO,  $CH_2NH$ ,  $-NHCH_2$ ,  $-CH_2NHCH_2$ ,  $-CH_2-N$  ( $R_{11}$ )  $CH_2-$ ,  $CH_2$  ( $R_{11}$ ) N-, CH ( $R_{11}$ ), S,  $CH_2$  (CO), NH wherein  $R_{11}$  is optionally substituted with  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  alkyl, aryl, heteroaryl; and

**Q and P** are independently selected from the group consisting of -CN, COR<sub>5</sub>, COOR<sub>5</sub>, N ( $R_6$ ,  $R_7$ ), CON ( $R_6$ ,  $R_7$ ), CH<sub>2</sub>NO<sub>2</sub>, NO<sub>2</sub>, CH<sub>2</sub>R<sub>8</sub>, CHR<sub>9</sub>, -CH=N-OR<sub>10</sub>, C=CH-R<sub>5</sub>, wherein R<sub>5</sub> is selected from the group consisting of H, optionally substituted C<sub>1-12</sub>alkyl, C<sub>3-12</sub> cycloalkyl, aryl, heteroaryl; R<sub>6</sub> and R<sub>7</sub> are independently selected from the group consisting of H, optionally substituted C<sub>1-12</sub> alkyl, C<sub>3-12</sub> cycloalkyl, C<sub>1-6</sub> alkoxy; R<sub>8</sub> and R<sub>9</sub> are independently selected from the group consisting of H, C<sub>1-6</sub> alkyl,F, Cl, Br, C<sub>1-12</sub> alkyl substituted with one or more of F, Cl, Br, I, OR<sub>4</sub>, SR<sub>4</sub>,wherein R<sub>4</sub> is the same as defined before, N(R<sub>6</sub>, R<sub>7</sub>), R<sub>10</sub> is selected from the group consisting of H, optionally substituted C<sub>1-12</sub> alkyl, C<sub>3-12</sub> cycloalkyl, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> alkyl, aryl, heteroaryl except W= (CO), Q and P=H.

wherein M = Sulphur is shown by compounds of Formula III,



**FORMULA III** 

wherein P, Q, U, V, X, Y, Z, W and n in Formula III are the same as previously defined, wherein the process comprising reacting a compound of Formula V

FORMULA V

with a compound of Formula VI

wherein P, Q, R<sub>12</sub>, Y, Z, G, n, U and V are the same as defined earlier.

- 35. (New) A process for preparing a compound of Formula II as claimed in claim 34, in a solvent selected from the group consisting of dimethylformamide, dimethylacetamide, ethanol or ethylene glycol at a temperature in the range of -70°C to 180°C in the presence of a base selected from the group consisting of triethyl amine, diisopropyl amine, potassium carbonate and sodium bicarbonate.
- 36. (New) A process of preparing a compound of Formula II as claimed in claim 34, wherein Formula VI is furaldehyde and reductive alkylation of the amine of Formula V is performed with a reducing agent.
- 37. (New) A process for preparing a compound of Formula II as claimed in claim 34, wherein Formula VI is furoic acid.

- 38. (New) A process for preparing a compound of Formula II as claimed in claim 34, wherein the compounds of Formula II having carbonyl link are prepared by reacting a heteroaromatic compound of the Formula VI including N- methyl pyrrole with the intermediate amine of Formula V in the presence of triphosgene or phosgene and carbonyl linkers are introduced between heteroaromatic compound comprising reacting 3- bromothiophene and amine of Formula V with carbon monoxide and the catalyst is selected from the group consisting of Pd (PPh<sub>3</sub>)<sub>2</sub>Cl<sub>2</sub> and extended chain pyrroles having dicarbonyl linkers are obtained by treatment of oxalyl chloride and amine of the Formula V.
- 39. (New) A process for preparing a compound of Formula VIII

FORMULA VIII

wherein

n is 1;

X is N;

Y and Z are independently selected from the group consisting of hydrogen,  $C_{1-6}$  alkyl, and  $C_{3-12}$  cycloalkyl;

U and V are independently selected from the group consisting of hydrogen, optionally substituted  $C_{1-6}$  alkyl, F, Cl, Br, and  $C_{1-12}$  alkyl substituted with one or more of F, Cl, Br, I;

W is selected from the group consisting of CH<sub>2</sub>, CO, CH<sub>2</sub>NH, -NHCH<sub>2</sub>, -CH<sub>2</sub>NHCH<sub>2</sub>, -CH<sub>2</sub>-N (R<sub>11</sub>) CH<sub>2</sub> -, CH<sub>2</sub> (R11) N-, CH (R<sub>11</sub>), S, CH<sub>2</sub> (CO), NH wherein R<sub>11</sub> is

optionally substituted with C  $_{1-12}$  alkyl, C  $_{3-12}$  cycloalkyl, C  $_{1-6}$  alkoxy, C  $_{1-6}$  alkyl, aryl, heteroaryl;

**Q and P** are independently selected from the group consisting of -CN, COR<sub>5</sub>, COOR<sub>5</sub>, N ( $R_6$ ,  $R_7$ ), CON ( $R_6$ ,  $R_7$ ), CH<sub>2</sub>NO<sub>2</sub>, NO<sub>2</sub>, CH<sub>2</sub>R<sub>8</sub>, CHR<sub>9</sub>, -CH=N-OR<sub>10</sub>, C=CH-R<sub>5</sub>, wherein  $R_5$  is selected from the group consisting of H, optionally substituted  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl, aryl, heteroaryl;  $R_6$  and  $R_7$  are independently selected from the group consisting of H, optionally substituted  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$  alkoxy;  $R_8$  and  $R_9$  are independently selected from the group consisting of H,  $C_{1-6}$  alkyl,F, Cl, Br,  $C_{1-12}$  alkyl substituted with one or more of F, Cl, Br, I, OR<sub>4</sub>, SR<sub>4</sub>,wherein R<sub>4</sub> is the same as defined before, N( $R_6$ ,  $R_7$ ),  $R_{10}$  is selected from the group consisting of H, optionally substituted  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{1-6}$  alkoxy,  $C_{1-6}$  alkyl, aryl, heteroaryl except W= (CO), Q and P =H;

M = Sulphur is shown by compounds of Formula III

**FORMULA III** 

and  $R_{15}$  is the same as Q defined earlier, comprising converting a compound of Formula VII

FORMULA VII

wherein in U, V, Y, Z, X, W, P, n and M are the same as defined earlier and are  $R_{14}$  is any group which can be converted to group  $R_{15}$  in one to five steps.